



# Indoor Air Quality Monitor

February 2005

 North Dakota Department of Health

## Eye on Events

### Mold and Moisture Training Course

The University of North Dakota, Environmental Training Institute will hold a mold and moisture course March 29, 2005, in Grand Forks, N.D. The course is designed for building owners, building managers, health professionals, contractors, building inspectors and maintenance personnel. Topics include health effects, cleanup and prevention. For more information or to register, visit [www.eti.und.edu](http://www.eti.und.edu) or call 701.777.0384.

### Inert and Municipal Landfill Operator Training

The North Dakota Department of Health, Division of Waste Management is holding a municipal waste landfill operator certification training course March 1 through 4, 2005 at the Environmental Training Center, 2639 East Main Ave., Bismarck, N.D. The cost is \$65 per attendee. The training will consist of 20 hours of classroom instruction, a four-hour field exercise and a certification examination.

The Division of Waste Management is also planning inert waste landfill training courses for Grafton, N.D on March 15 and Valley City, N.D on March 16, 2005. Those wishing to attend either of the training courses should contact the Division of Waste Management at 701.328.5166.

## Lakota Student Wins Radon Poster Contest

The North Dakota State 2005 Radon Poster Contest winner is Erica Anderson, a fifth-grade student at Lakota Elementary School, Lakota, N. D.

Each year the North Dakota Department of Health, North Dakota State University Extension Services, and the American Lung Association of North Dakota invite fifth-grade students across the state to participate in the state radon poster contest. Students submit their posters to the North Dakota Department of Health for judging.

Posters are judged in several categories, including what is radon, where is radon found, what are the health effects of radon, how to test



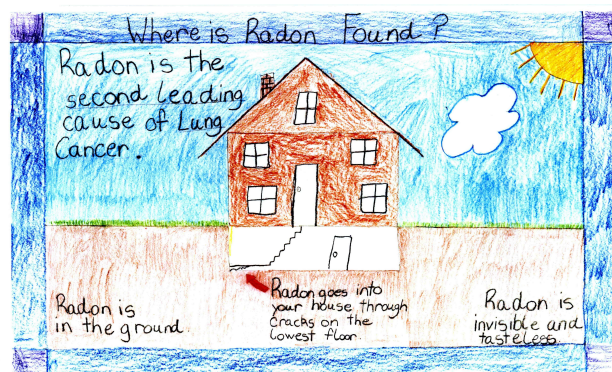
North Dakota State 2005 Radon Poster Contest winner, Erica Anderson with (from left to right): her teacher, Ms. Sundeen; her parents, Bruce and Lori Anderson, Nelson/Griggs District Health Administrator, Julie Ferry; and North Dakota Department of Health, Division of Air Quality Director, Terry O'Clair.

for radon and how to reduce indoor radon levels. The overall winning poster for the state is selected from the

winners of each category.

The state radon poster contest is part of a national radon poster contest sponsored by the U.S. Environmental Protection Agency, the U.S. Department of Agriculture and Montana State University Extension Service.

The radon poster contest is held annually during October. October is recognized as Indoor Air Quality Month in an effort to raise public awareness about radon and other indoor air quality issues. (Contest ... Cont. page 2)



The winning poster for the 2004-2005 North Dakota State Radon Poster Contest submitted by Erica Anderson (5th grade) of Lakota Elementary School.

## Inside This Issue ...

Eye on Events	.....1
Lakota Student Wins Radon Poster Contest	.....1
Lung Association Gets Home Inspection Program	.....2
IAQ Colleague	.....2
Tool Talk: IAQ Equipment Review	.....3

(Contest ... From page 1)

The winning poster from each state is sent to compete at the national level, where the student has a chance to win a trip to Washington, D.C.

Students who participate learn a great deal about radon. By participating in the event, students learn more about what radon is, where it can be found,

how it enters into homes, the health effects from exposure to radon, how to test for radon, and how to lower indoor radon levels.

The North Dakota Department of Health, North Dakota State University Extension Service, and American Lung Association of North Dakota congratulate

Erica and all of the participating students for their efforts to help raise awareness about radon and indoor air quality in North Dakota.

For more information about the radon poster contest, contact Jesse Green, North Dakota Department of Health, at 701.328.5188 or by e-mail at [jmgreen@state.nd.us](mailto:jmgreen@state.nd.us).

## IAQ Colleague



**Julie Ferry with (from left to right behind Julie) her daughter, Christy (20); husband Scott; and son, Shawn (22).**

## Lung Association Gets Home Inspection Program

The American Lung Association of North Dakota (ALAND) is providing a new service, the Master Home Environmentalist (MHE) Program, to North Dakotans. The MHE Program trains volunteers to inspect homes for a wide range of indoor environmental hazards.

The training teaches the volunteer inspectors how to recognize and correct potential indoor environmental hazards. Some of the things that inspectors will learn about in the MHE training include, but are not limited to:

- How to identify various signs of moisture problems that may lead to biological contamination such as indoor mold growth, including how to control humidity in an effort to prevent mold growth and reduce the indoor dust mite population.
- How to recognize poor cleaning and maintenance practices that can lead to elevated concentrations of indoor dust and allergens.
- How to check and change furnace filters.
- How to read and understand labels on



**With the Master Home Environmentalist training, volunteer home inspectors will be able to read and understand the labels on many household chemical**

household chemical containers, how to properly store household chemicals, and alternatives to using household chemicals.

- How to identify unhealthy habits, such as smoking, that bring environmental hazards into the home.
- How to help home owners make relatively easy and inexpensive changes to correct problems and improve their indoor environment and potentially their health.
- How to use the Home Environmental Assessment List (HEAL), a checklist that helps the inspector identify all of the potential indoor environmental hazards found during an inspection and prioritize them for the home owner.

Once trained, the volunteers will work with ALAND to conduct inspections in their area. For more information on how to become a master home environmentalist volunteer in your area or how to have a home inspection done by a trained master home environmentalist, contact ALAND at 701.223.5613 in Bismarck or at 800.252.6325 in the rest of the state.



**The Master Home Environmentalist Program teaches volunteer home inspectors about ventilation, including how to change furnace filters.**

This issue's indoor air quality (IAQ) colleague is Julie Ferry, R.N. Julie is the administrator for Nelson/Griggs District Health. Julie grew up in Cooperstown, N.D. and earned her BSN from the University of North Dakota.

Julie has worked as a nurse in Rugby, Bismarck and Kenmare. She started her career as a contract nurse for First District Health in Minot, N.D. She also worked at Traill District Health in Hillsboro, N.D.

Nelson Griggs District Health Unit is contacted about almost any health issue, including IAQ. Over the years, Julie has learned where the resources are when environmental issues arise.

Schools have found Julie's knowledge useful. She has helped assess mold problems in schools and works closely with schools to educate children about radon. The past two radon poster contest winners in North Dakota are from Julie's area.

Tobacco-related issues are increasing. As an ex-smoker of 25 years, Julie understands the addiction, and now with a diagnosis of asthma, it's become much more personal to speak out on the health issues.

Julie admits she is a "workaholic" and involves her family in her work. However, she also enjoys reading and baking.



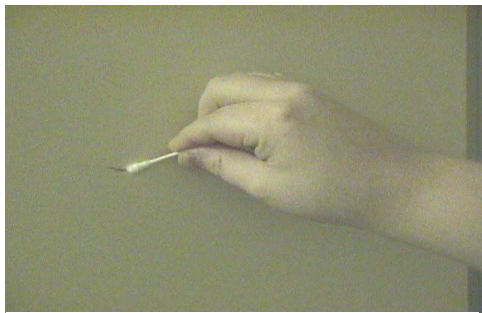
# Tool Talk: Indoor Air Quality Equipment Review

This issue of the Indoor Air Quality Monitor Equipment Review will discuss do-it-yourself home lead test kits. Do-it-yourself home lead test kits are used to test the surface of a material for the presence of lead.

The most common material that is tested for the presence of lead is a painted surface to determine if the paint contains lead. However, many of the manufacturers of chemical lead test kits claim that their test kits also will work on other items such as lead crystal or glazed dinnerware.

Do-it-yourself home lead test kits typically come with a liquid applied with a cotton swab to the surface that is being tested for the presence of lead. The liquid contains a chemical reagent that reacts to the presence of lead by changing color. The color change is usually from clear or colorless to pink or red, but also may change to another color, such as black. The darker the resulting color change the greater concentration of lead in the material being tested.

Chemical lead test kits have several limitations that users need to be aware of. First, when the chemical is applied directly to a painted surface to test for lead-based paint, it may take a good deal of rubbing before enough lead reacts to form a color change. In addition, the test does not penetrate to underlying layers of



Chemical lead test kits work best when applied to a scratch or edge of the paint.

paint. In order to get the lead in the paint to react more quickly, it is recommended that the chemical be applied to a scratch in the paint. The scratch should penetrate all layers of paint to the substrate and should be made at an angle in an effort to expose all layers of the paint to the chemical reagent.

Another limitation with chemical lead test kits is the fact that there are many interferences that may yield a false-positive test result. For example, chemical lead tests that react to the presence of lead by turning to a shade of red do not work well on red paint because the coloring from the paint tends to leach out, resulting in the appearance of a color change.

In addition, the chemical reagents used in the chemical lead test kits also change color in the presence of other chemicals, including barium, calcium sulfate and chromate. Complicating the matter is the fact that calcium sulfate is present in plaster and chromates such as zinc chromate are used in some paints to provide pigment.

A third problem with chemical lead test kits stems from their lack of accuracy. Chemical lead test kits are qualitative indicator tests. Studies show that they do not reliably distinguish between low and high levels of lead.

Chemical lead tests also may have difficulty distinguishing between lead levels that are close to those that define whether paint is considered to be lead-based or not. This means that a chemical lead indicator test might produce a negative result in the presence of lead-based paint that has lower lead levels.



Lead-based paint is the most common source of lead in homes. Other sources can include glazed ceramic dinnerware, lead crystal and lead fishing weights.



Examples of do-it-yourself chemical lead test kits that use a chemical reagent to detect the presence of lead.

Lead-based paint is defined by law as “paint or other coatings that contain lead equal to or in excess of 1.0 milligrams per square centimeter or 0.5 percent by weight.”

The do-it-yourself lead test kits are sold at many hardware stores and on the Internet, and are marketed primarily toward homeowners. They are inexpensive, usually selling for less than \$10 for a box with several swabs. On the other hand, having paint analyzed by a certified lab using more accurate testing procedures costs only about \$8 to 16 per paint chip sample.

Chemical lead tests are not recognized as an acceptable test for lead-based paint by the U.S. EPA, U.S. HUD or the North Dakota Department of Health. The tests may provide evidence for the presence of lead, though only presumptive, but they are inadequate at determining the absence of lead.

For more information about lead tests, contact Sandi Washek, North Dakota Department of Health at 701.328.5188 or by e-mail at: [swashek@state.nd.us](mailto:swashek@state.nd.us).

*The Indoor Air Quality Monitor is published quarterly by the North Dakota Department of Health, Indoor Air Quality Program.*

Dr. Terry Dwelle, State Health Officer  
Dave Glatt, Chief, Environmental Health Section  
Terry O'Clair, Director, Division of Air Quality  
Ken Wangler, Manager, Indoor Air Quality Program  
Jesse Green, Editor



North Dakota Department of Health  
Division of Air Quality  
1200 Missouri Ave.  
Box 5520  
Bismarck, ND 58506-5520  
Phone: 701-328-5188  
Fax: 701-328-5200

*Questions? Comments? Suggestions? Something to add to the next issue? Call Sandi Washek at 701.328.5188*